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M253152 -- Patent Information

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Abstract	<p>A wireless transmitter includes a primary member, and a transmitting member; audio signals in a MP3 player can be transmitted by the transmitting member when the MP3 player is connected to the primary member; therefore, the audio signals can be played through a radio; the primary member has two clamping arms used for securing a MP3 player, and a depressible element, which can be depressed for moving the arms further away from each other, and which is passed through top of the primary member, and constantly subjected to a force, which biases it upwards; the arms are constantly subjected to force, which biases them towards each other; therefore, enough space is provided between the arms for receiving a MP3 player when the depressible element is depressed, and the arms will be moved onto and pressed against the MP3 player to secure same when one stops depressing the depressible element.</p>		

Wireless Transmitter for MP3 Players with Different Sizes

[FIELD OF THE INVENTION]

The present invention relates to a wireless transmitter for
5 MP3 players with different sizes, and more particularly, a
"wireless transmitter for MP3 players with different sizes"
which can clamp an MP3 player on a foundation by clamping arms
without respect to the appearance, specification and size of
the MP3 player, and can be assembled with a radio transmitter
10 on the foundation so as to transmit music signals outputted
from the MP3 player at a set frequency while consumers can
receive the signals to play music by an FM receiver.

[BACKGROUND TO THE INVENTION]

15 An MP3 player can generally be referred to a dedicated MP3
player, or a personal digital assistant (PDA) capable of
storing and processing MP3 music data, and so on.

The aforementioned MP3 player and PDA can process music data
20 stored in a MP3 format and play the music. However, the music
played through a MP3 player is usually listened to by way of
using a headphone, and there are still many consumers hard
to get used to it.

25 Therefore, there was a patent application of US 6,591,085 B1

of "FM transmitter and power supply/charging assembly for MP3
player" published on July 8, 2003, in which a MP3 player is
docked on the body of an FM transmitter and power
supply/charging assembly so as to process music signals
5 outputted from the MP3 player and transmit at a frequency,
and consumers can receive said signals by using an FM receiver
to play the music. Thus, besides using headphones, the MP3
player can play music with an FM receiver.

10 However, the docking unit on the body of the aforementioned
US patent application can only mount a single size and
specification of MP3 player, and can not universally mount
various sizes and specifications of MP3 player.

15 [SUMMARY OF THE INVENTION]

For the above-mentioned reasons, the present invention
intends to provide a wireless transmitter for MP3 players with
different sizes, capable of being assembled with various sizes
and specifications of MP3 player, and transmitting the music
20 signals outputted from the MP3 player by way of radio frequency
modulation with a radio transmitter so that consumers can
receive the signals by using an FM receiver to play the music.

[BRIEF DESCRIPTION OF THE DRAWINGS]

25 Fig. 1 is a perspective view of the present invention.

Fig. 2 is a sectional view of the present invention.

Fig. 3 is a schematic diagram showing a structural embodiment of the pressing button driving the clamping arms with the pressing button not pressed down according to the present
5 invention.

Fig. 4 is a schematic diagram showing a structural embodiment of the pressing button driving the clamping arms with the pressing button pressed down according to the present invention.

10 Fig. 5 is a schematic diagram showing another structural embodiment of the pressing button driving the clamping arms according to the present invention.

[DESCRIPTION OF PREFERRED EMBODIMENTS]

15 First, referring to Figs. 1~4, a wireless transmitter of the present invention consists of a foundation (1) and a radio transmitter (2).

The foundation (1) has an upper receiving portion (11) and
20 a lower receiving portion (12) formed on its front side, for mounting an MP3 player (3) and a radio transmitter (2), respectively. The upper receiving portion (11) is provided with a connector (111) for connecting with a socket (31) of the MP3 player (3) such as a dedicated MP3 player or a personal
25 digital assistant (PDA) capable of storing and processing MP3

music data. The foundation (1) has a pressing button (13) provided on the top side and clamping arms (14) provided on both sides. The clamping arms (14) resiliently expand outward upon pressing down the pressing button (13), and retract back
5 upon releasing the pressing button (13) so as to clamp the MP3 player (3). The lower receiving portion (12) has a power plug (121) and a music plug (122) assembled thereon, for connecting with a power socket (21) and a music socket (22) of the radio transmitter (2), respectively. The foundation
10 (1) has a vehicle power plug (15) assembled on its rear side for obtaining a power supply from a vehicle power source, which further supplies the power to the connector (111) and the power plug (121) via an internal circuit so as to supply the power to the MP3 player (3) and the radio transmitter (2). Music
15 signals outputted from the MP3 player (3) are transmitted to the music plug (122) through the connector (111), and then inputted into the radio transmitter (2). After receiving the music signals, the radio transmitter (2) transmits the music signals at a set frequency with the internal digital FM circuit
20 so that consumers can receive the signals by using an FM receiver to play the corresponding music. Further, the radio transmitter (2) is provided with operation keys (23) and a display (24) for setting and displaying operation modes, operational functions, transmitting frequencies, etc.

Referring to Figs. 3 and 4, a structural embodiment of the above-mentioned pressing button (13) driving the clamping arms (14) is showed. That is, a resilient member (132) is provided between the above-mentioned pressing button (13) and
5 a bump (131) on the inner wall of the foundation (1), resilient members (142) are provided between the above-mentioned clamping arms (14) and bumps (141) on the inner wall of the foundation (1), and the inner ends of the pressing button (13) and the clamping arms (14) are contacted by inclined portions
10 (133) and (143). When pressing down the pressing button (13), the clamping arms (14) extend outward by the inclined portions (133) of the pressing button (13) pushing the inclined portions (143) of the clamping arms (14) and the resilient members (132) and (142) are forced to be compressed. When
15 releasing the pressing button (13), the pressing button (13) and the clamping arms (14) are restored to their original positions due to the resilience of the resilient members (132) and (142).

20 Referring to Fig. 5, another structural embodiment of the above-mentioned pressing button (13) driving the clamping arms (14) is showed. That is, a resilient member (132) is provided between the above-mentioned pressing button (13) and a bump (131) on the inner wall of the foundation (1), a
25 rotatable gear (134) is provided in the foundation (1), and

the pressing button (13) and the clamping arms (14) are provided with teeth (135) and (144) at their inner ends to engage both ends of the gear (134), respectively. When pressing down the pressing button (13), the teeth (135) of the pressing button (13) drive the gear (134) to rotate so that the clamping arms (14), which engage the other end of the gear (134) by the teeth (144), extend outward and the resilient member (132) is forced to be compressed. When releasing the pressing button (13), the pressing button (13) is restored to its original position due to the resilience of the resilient member (132), and the pressing button (13) also drives the gear (134) to rotate and further drives the clamping arms (14) to retract back to its original position.

Referring to Figs. 1~4, when in use, press down the pressing button (13) to resiliently extend the clamping arms (14) so that the MP3 player (3) can be placed in the upper receiving portion (11) of the foundation (1) with the socket (31) thereof connected with the connector (111) of the upper receiving portion (11). Subsequently, release the pressing button (13) to retract the clamping arms (14) and thus clamp the MP3 player (3). Therefore, the MP3 player (3) can be clamped by the clamping arms (14) without respect to the appearance, specification and size thereof. Further, the vehicle power plug (15) is connected to a vehicle power source to, with an

internal circuit, supply power to the MP3 player (3) through the connector (111) so that the MP3 player (3) can be charged or operated to play music by this power source. If music is to be broadcasted with the MP3 player (3), the radio transmitter (2) can be placed in the lower receiving portion (12) of the foundation (1) with the power plug (121) and music plug (122) of the lower receiving portion (12) connected with the power socket (21) and music socket (22) of the radio transmitter (2), respectively, so that the radio transmitter (2) obtains a power supply through the power plug (121) and music signals, which are outputted through the connector (111) from the MP3 player (3), through the music plug (122), and transmits said signals at a set frequency with the internal circuit. Therefore, consumers can adjust a general FM receiver to the same frequency channel so as to receive the signals and broadcast the music with the speakers in the vehicle.

Besides, if no music is to be broadcasted, the MP3 player (3) can be charged by using the foundation (1). That is, the MP3 player (3) is placed on the foundation (1) with the vehicle power plug (15) connected with the vehicle power source so as to charge the MP3 player (3) with the internal circuit by using the vehicle power source. No radio transmitter (2) needs to be assembled at this time.

From the above description, it can be understood that the present invention indeed has the following advantages:

- 5 1. By assembling the MP3 player (3) and the radio transmitter (2) onto the foundation (1), music signals outputted from the MP3 player (3) can be transmitted via the radio transmitter (2) at a set frequency so that consumers can receive the signals by using an FM receiver to broadcast
10 the music through the speakers in a vehicle.
2. With the interactive structure between the pressing button (13) and the clamping arms (14), the clamping arms (14) can resiliently extend and retract. Therefore, the MP3
15 player (3) can be clamped by the clamping arms (14) without respect to the appearance, specification and size thereof.
3. The foundation (1) can connect to a vehicle power source via the vehicle power plug (15) on its rear side, and supply
20 power to the MP3 player (3) so that the MP3 player (3) can be charged or operate to play music by this power supply.
4. The foundation (1) can connect to a vehicle power source via the vehicle power plug (15) on its rear side, and supply
25 power to the radio transmitter (2) so that the radio

transmitter (2) can operate by this power supply.

5 5. When no music is to be played, the foundation (1) can only
assemble the MP3 player (3) thereon for charging the same
without assembling the radio transmitter (2).

In summary, the embodiments of the present invention can
indeed achieve the effects as expected, and the concrete
structures as disclosed above have not been seen in the
10 products of the same category and open to the public before
filing an application. Therefore, the present invention
completely meets the provisions and requirements of the Patent
Act, and a utility model patent application is filed in this
regard according to the law. It is respectfully solicited
15 that your Office after examination will grant the patent.

[DESCRIPTION OF REFERENCE NUMERALS]

1	foundation
11	upper receiving portion
20 111	connector
12	lower receiving portion
121	power plug
122	music plug
13	pressing button
25 131	bump

Translation of TW M253152

	132	resilient member
	133	inclined portion
	134	gear
	135	teeth
5	14	clamping arm
	141	bump
	142	resilient member
	143	inclined portion
	144	teeth
10	15	vehicle power plug
	2	radio transmitter
	21	power socket
	22	music socket
	23	operation keys
15	24	display
	3	MP3 player
	31	socket

What is claimed is:

1. A wireless transmitter for MP3 players with different sizes, comprising a foundation and a radio transmitter, characterized in that said foundation has an upper receiving portion and a lower receiving portion formed on its front side, for mounting an MP3 player and the radio transmitter, respectively; said upper receiving portion is provided with a connector for connecting with a socket of the MP3 player; said foundation has a pressing button provided on the top side and clamping arms provided on both sides; the clamping arms can resiliently expand outward upon pressing down the pressing button, and retract back upon releasing the pressing button so as to clamp the MP3 player; said lower receiving portion has a power plug and a music plug assembled thereon, for connecting with a power socket and a music socket of the radio transmitter, respectively; said foundation has a vehicle power plug assembled on its rear side for obtaining a power supply from a vehicle power source, which further supplies the power to the connector and the power plug via an internal circuit so as to supply the power to the MP3 player and the radio transmitter; music signals outputted from the MP3 player are transmitted to the music plug through the connector, and then inputted into the radio transmitter; after receiving the music signals, said radio transmitter transmits the music

signals at a set frequency via the internal circuit so that consumers can receive the signals by using an FM receiver to play the corresponding music.

5 2. The wireless transmitter for MP3 players with different sizes according to claim 1, wherein the MP3 player is a dedicated MP3 player.

10 3. The wireless transmitter for MP3 players with different sizes according to claim 1, wherein the MP3 player is a personal digital assistant (PDA) capable of storing and processing MP3 music data.

15 4. The wireless transmitter for MP3 players with different sizes according to claim 1, wherein the radio transmitter is provided with operation keys and a display for setting and displaying operation modes, operational functions and transmitting frequencies.

20 5. The wireless transmitter for MP3 players with different sizes according to claim 1, wherein a resilient member is provided between the pressing button and a bump on the inner wall of the foundation, resilient members are provided between the clamping arms and bumps on the inner wall of the foundation,
25 and the inner ends of the pressing button and the clamping

arms are contacted by inclined portions; when pressing down the pressing button, the clamping arms extend outward by the inclined portions of the pressing button pushing the inclined portions of the clamping arms and the resilient members are forced to be compressed; when releasing the pressing button, the pressing button and the clamping arms are restored to their original positions due to the resilience of the resilient members.

10 6. The wireless transmitter for MP3 players with different sizes according to claim 1, wherein a resilient member is provided between the pressing button and a bump on the inner wall of the foundation, a rotatable gear is provided in the foundation, and the pressing button and the clamping arms are provided with teeth at their inner ends to engage both ends of the gear, respectively; when pressing down the pressing button, the teeth of the pressing button drive the gear to rotate so that the clamping arms, which engage the other end of the gear by the teeth, extend outward and the resilient member is forced to be compressed; when releasing the pressing button, the pressing button is restored to its original position due to the resilience of the resilient member, and the pressing button also drives the gear to rotate and further drives the clamping arms to retract back to its original position.

Abstract

A wireless transmitter includes a primary member, and a transmitting member; audio signals in a MP3 player can be
5 transmitted by the transmitting member when the MP3 player is connected to the primary member; therefore, the audio signals can be played through a radio; the primary member has two clamping arms used for securing a MP3 player, and a depressible element, which can be depressed for moving the
10 arms further away from each other, and which is passed through top of the primary member, and constantly subjected to a force, which biases it upwards; the arms are constantly subjected to force, which biases them toward each other; therefore, enough space is provided between the arms for receiving a MP3
15 player when the depressible element is depressed, and the arms will be moved onto and pressed against the MP3 player to secure same when one stops depressing the depressible element.

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